

CLAIMS

What is claimed is:

1. A method for rapidly identifying which one of a plurality of
5 wireless terminals in communication with a target wireless device is causing
electromagnetic wave interference with one or more non-target wireless
devices located in physical proximity to the target wireless device, upon
learning of an existence of said electromagnetic wave interference, the
method comprising:
 - 10 a) using a monitoring component to monitor transmissions from
said wireless terminals to said target wireless device;
 - b) using said monitoring component to divide all of said wireless
terminals into at least first and second subpluralities;
 - c) using said monitoring component to command said wireless
15 terminals in at least one of said subpluralities to cease transmitting
operations;
 - d) using said monitoring component to identify an interfering group
of said wireless terminals that is causing said electromagnetic wave
interference;
 - 20 e) from said interfering group of wireless terminals that is causing
said electromagnetic wave interference, if more than one said wireless
terminal is present in said interfering group, then further subdividing said
interfering group into at least a pair of further groups; and
 - f) repeating steps d) through e) until a specific interfering wireless
25 terminal is identified.

2. The method of Claim 1, further comprising the step of using said monitoring component to command said specific wireless interfering terminal to cease transmitting operations.

5 3. The method of Claim 1, wherein the step of using a monitoring component comprises using a ground-based network operations center (NOC).

10 4. The method of Claim 1, wherein step b) comprises dividing all of said wireless terminals into only two subpluralities.

5. A method for rapidly determining which one of a plurality of mobile wireless terminals accessing a target wireless device, and operating within a given coverage region, is causing electromagnetic wave interference with a non-target wireless device, said method comprising:

5 initially dividing all of said wireless terminals into first and second subpluralities;

ordering each of said wireless terminals in said first subplurality to cease transmitting operations;

determining if said electromagnetic wave interference is eliminated;

10 if said electromagnetic wave interference is eliminated, then further subdividing said first subplurality of wireless terminals into third and fourth subpluralities;

again commanding all of said wireless terminals in said third subplurality of wireless terminals to cease transmitting;

15 checking to determine if said electromagnetic interference condition has abated; and

continuing to alternately sub-divide by two and check each subplurality of said wireless terminals for the existence of an electromagnetic interference condition until a specific one of said wireless terminals is identified which is
20 causing said electromagnetic interference condition.

6. A method for quickly determining which one of a plurality of mobile wireless terminals accessing a transponded target satellite is causing electromagnetic wave interference with a non-target satellite in the vicinity of said target satellite, said method comprising:
- 5 using a central operations station to divide said mobile wireless terminals into first and second subpluralities;
- using the central operations station to command all of said mobile wireless terminals within said second subplurality to cease transmitting;
- 10 determining, in connection with information supplied by said operator, if an electromagnetic wave interference condition still exists;
- if said electromagnetic wave interference condition still exists, using said central operations station to further subdivide said first subplurality into third and fourth subpluralities of mobile wireless terminals;
- 15 using said central operations station to command said fourth subplurality of mobile wireless terminals to cease transmitting;
- determining if said electromagnetic wave interference condition is still present;
- and
- 20 if so, using said central operations station to repeatedly subdivide that subplurality of said mobile wireless terminals which is causing said interference condition until said central operations station has identified a single one of said mobile terminals that is causing said electromagnetic wave interference condition.

7. A method for quickly determining which one of a plurality of wireless terminals accessing a target electronic device is causing electromagnetic wave interference with a non-target electronic device in the vicinity of said target electronic device, said method comprising:

5 using an operations station to divide said wireless terminals into first and second subpluralities;

 using the operations station to command all of said wireless terminals in one or the other of said first and second subpluralities to cease transmitting;

10 determining if an electromagnetic wave interference condition still exists;

 if said electromagnetic wave interference condition still exists, then commanding the wireless terminals in the other of said first and second subpluralities to cease transmitting; and

15 further subdividing the other of said subpluralities, and alternately commanding all of the wireless terminals in each sub group of the other of said subpluralities to cease transmitting, until a single one of said wireless terminals is identified that is causing said electromagnetic wave interference.

8. A system for rapidly identifying, from a group of wireless terminals accessing a target electronic device, which one wireless terminal of the group is causing an interference condition with a non-target electronic device, the system comprising:

5 a central monitoring station for monitoring transmissions from said wireless terminals to said target electronic device;

 said central monitoring station including a subsystem for transmitting commands to each of said wireless terminals to command each to cease transmitting to said target electronic device; and

10 wherein said central monitoring station operates to:

 initially divide said wireless terminals into first and second groups;

 to then command all of the wireless terminals in one of said groups to cease transmitting to said target electronic device;

15 to then identify which of said first and second groups is still causing said interference condition;

 and, if said interference condition is still present, further subdividing the one of said first and second groups that is still causing said interference condition, and alternately checking to determine if said
20 interference condition has abated, to successively divide said wireless terminals into smaller and smaller sub groups until a single interfering one of said wireless terminals is identified as causing said interference condition.

25 9. The system of claim 8, wherein said central monitoring station comprises a ground based monitoring station.

 10. The system of claim 8, wherein said wireless terminals comprise mobile wireless terminals.

30 11. The system of claim 8, wherein said central monitoring station operates to subdivide said wireless terminals at least approximately in half

each time a check for said interference condition indicates that said interference condition is still present.

12. A system for rapidly identifying, from a group of wireless terminals accessing an airborne transponder, which one wireless terminal of the group is causing an interference condition with a non-target electronic device, the
5 system comprising:

a central monitoring station for monitoring transmissions from said wireless terminals to said airborne transponder;

said central monitoring station including a subsystem for transmitting commands to each of said wireless terminals to command each to cease
10 transmitting to said airborne transponder; and

wherein said central monitoring station operates to:

initially divide said wireless terminals into first and second groups;

to then command all of the wireless terminals in one of said
15 groups to cease transmitting to said target electronic device;

to then identify which of said first and second groups is still causing said interference condition;

and further alternately subdividing the one of said first and second groups that is still causing said interference condition, and checking to
20 determine if said interference condition has abated, to divide said wireless terminals into successively smaller sub pluralities until a single interfering one of said wireless terminals is identified as causing said interference condition.

13. The system of claim 12, wherein said central monitoring station
25 comprises a ground based monitoring station.

14. The system of claim 12, wherein said central monitoring station successively divides said wireless terminals into successively smaller sub pluralities of approximately even numbers of said wireless terminals.
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